

**AAR Manual of Standards and Recommended Practices  
Specifications for Tank Cars**

M-1002

APPENDIX M

<b>Alloy steel</b>	ASTM A351, Grades CF8M, CN7M, CF8, CD4MCu, CF3, CF3M																
	ASTM A743, Grades CA-15, CF-8, CF-3, CF-3M, CF-8M, CN-7M, CF10SMnN																
	ASTM A744, Grades CF-8, CF-3, CF-8M, CF-3M																
	ASTM A747, Alloy CB7Cu-1, CB7Cu-2																
	Alloy steel castings, when required by DOT 179.201-4 for corrosive service, must be tested in accord with ASTM A262 Practice A. If the specimen does not pass Practice A, Practice B or C must be used, and the corrosion rate must not exceed the following:																
	<table border="1"> <thead> <tr> <th rowspan="2">Test Procedure<sup>a/</sup></th><th rowspan="2">Material</th><th colspan="2">Corrosion rate</th></tr> <tr> <th>in/mo</th><th>mm/mo</th></tr> </thead> <tbody> <tr> <td>Practice B</td><td>CF-3, CF-8, CF-3M and CF-8M</td><td>0.004</td><td>0.102</td></tr> <tr> <td>Practice C</td><td>CF-3 and CF-8</td><td>0.002</td><td>0.051</td></tr> </tbody> </table>			Test Procedure <sup>a/</sup>	Material	Corrosion rate		in/mo	mm/mo	Practice B	CF-3, CF-8, CF-3M and CF-8M	0.004	0.102	Practice C	CF-3 and CF-8	0.002	0.051
Test Procedure <sup>a/</sup>	Material	Corrosion rate															
		in/mo	mm/mo														
Practice B	CF-3, CF-8, CF-3M and CF-8M	0.004	0.102														
Practice C	CF-3 and CF-8	0.002	0.051														
	<sup>a/</sup> The test specimen may be finished on all surfaces by machining or grinding prior to testing.																
<b>Copper base alloy</b>	ASTM B61																
	ASTM B62																
<b>Nickel and Nickel Alloys</b>	ASTM A494, Grades CZ-100, M-35-1, M-35-2, M-30H, M-30C, CW-12MW, CW-2M, CW-6M, and N-12MV																
	Grade M-30C or M-35-1 should be used when weldability is desired.																
	Grades M-30C, M-35-1, and M-35-2 have equal corrosion resistance and can be used interchangeably.																
<b>Aluminum</b>	ASTM B26																
	ASTM B108																
	Aluminum castings must not be used, except where required by the nature of the lading.																

**4.5.3** Gray cast iron is not authorized for fittings in contact with the lading on all classes of tank cars. When specified for AAR 207W pressure-differential covered hopper cars, gray iron must comply with the following:

ASTM A126, Class B
ASTM A278, Class 30

**4.6 Miscellaneous Tank Materials**

**4.6.1** The following list is intended to be used as a guide in the selection of materials for manway covers, flanges, pads, reinforcing plates, structural shapes, nozzles, pipe, and tubes. These materials are approved for general use, provided they are compatible with the tank plate materials of paragraph 3.0, Table M10, and castings of paragraph 4.5 (all in this appendix), where applicable. They are not intended to exclude the use of suitable materials described by other specifications. Other materials may be used on specific approval of the Tank Car Committee.

**4.6.2** The materials listed hereafter are supplemental to the plate materials of paragraph 3.0, Table M10, and castings of paragraph 4.5 (all in this appendix) and may be used for the same pur-